be correlated with the size of the whole hair or of some part of the hair. In every case there is some dark pigment at the apical end, the part of the hair first formed. Within a short distance in yellow-banded hairs the dark pigment gives place partly or completely to yellow, and then proximally black gradually replaces yellow, and no yellow pigment is formed in the rest of the hair. In some cases no yellow pigment can be seen in the light band, but the concentration of the dark pigment is less than in the adjacent regions. In attempting to interpret the facts just outlined, various details of hair development must eventually be taken into consideration. It may be mentioned that in the follicles of two adjacent hairs of the same type, in one the yellow band may be in process of formation after the banded portion of its neighbour has been fully formed and the production of black pigment resumed.

In the light of the discussion of the agouti pattern in rodents by Sewall Wright (*Carnegie Inst., Wash.*, 241, 1916, and *Jour. Heredity*, 8, 1917), and of Onslow's work cited by Huxley and Ford, we may conclude that in the region of the light band the production of black pigment is partly or completely inhibited, while, of course, the colour of any part of a hair depends upon the rate at which different substances are produced.

Some few months ago I was able to discuss this work with Prof. Huxley, who suggested subjecting the animals to different conditions and observing the effect upon the agouti pattern. It also occurs to one that comparative studies should be made on the series of multiple allelomorphs, yellow, white-bellied agouti, agouti, and black. It has not yet been possible to undertake these investigations. They are mentioned as indicating further the possible usefulness of this line of inquiry. F. W. Dry.

The University, Leeds, December 15.

The Leaping Salmon.

The word salmon, in late Latin *Salmo* (for the fish was unknown to the Greeks), comes from *salio*, to leap; for all salmon run up the streams from the sea in the fall to cast their eggs in clear cold waters, for them to hatch as the waters grow cold. In this regard they are unlike most other fishes (birds and reptiles as well) whose eggs hatch as the weather becomes milder.

When salmon encounter a waterfall, they leap over it if they can. In a broken cascade they may worm their way through and around. This is true in tributaries of the Atlantic and Pacific alike. But while there is but one kind of salmon in the Atlantic, and that one much like a big trout, there are five kinds on our Pacific coast, and those quite different from the Atlantic salmon as well as from one another. These are the king salmon, known also as Chinook or Quinnat; the red salmon of Alaska, known as Blue-back and as Sockeye (*Sukkegh*); the silver salmon or Coho; the calico salmon or Chum; and the hunch-back salmon. All these agree in developing but one set of eggs, dying after once spawning. The noble salmon, king and red, mostly spawn the fourth year; the smaller hunchback the second year, the others at three or four. A few individuals delay the operation, growing to a correspondingly larger size. The red salmon, unlike all others of its kind, enters only streams that have a lake in their course. They spawn in streams at the head of the lake, and in it the young fishes mostly spend their first year. The other species are less particular, but some of them will ascend a stream for fifteen hundred miles (to Lake Laberge in the Yukon country, for example) before the suitable stream is found.

All salmon will leap over a waterfall where it is possible or necessary. I present here the finest picture of a leaping salmon I have ever seen (Fig. 1). An artist has to be keenly on the watch to take a picture like this. It represents a king salmon of about twenty-five pounds springing over the Punch Bowl Falls in the Cascade Range, Oregon, the height being about thirty feet. For this picture I am indebted to a former student, Helen Gibson (now Mrs. Rockhold), resident in Oakland, and for the purpose of placing this charming picture on record, I write this little sketch. David Starr Jordan.

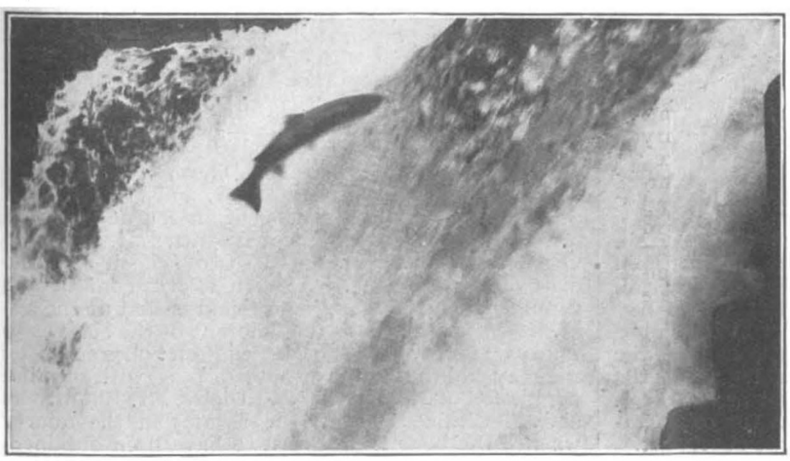

Fig. 1.—King salmon leaping the Punch Bowl Falls, Cascade Range, Oregon, 30 ft. high.

Detonating Meteors.

The descriptions of a brilliant meteoric fireball in Nature of November 28, p. 795, and in two letters dated November 17 and November 28 from Mr. W. F. Denning to the *Times*, give details of the attendant acoustical phenomena which are perhaps worth examination.

It appears that at least 25 miles above Hounslow detonations occurred, and these not only originated sound at that great height, but were also heard loudly at Caterham after passing down through at least 30 miles of the atmosphere.

The loud and thunder-like sounds would appear to be the chief, if not the only, reason for supposing a detonation to take place. Mr. Denning has confirmed in a letter to me that the accepted explanation of the origin of the sound is that there is a detonation resulting from the great heat due to the swift passage of the meteor against the resistance of the air.

The sounds need not necessarily arise from a detonation or explosion, however, for a body moving through the air with a velocity greater than that of sound will on that account give rise to an intense and sudden sound, which in the now familiar case of a high velocity shell or bullet was commonly supposed to originate from the explosion of the propellent charge. The "shell wave" or "onde de choc" to which the loud crack is due is readily understood if Huyghen's principle is applied to this case, supposing the body